

Internet in North Korea

Internet access is available in [North Korea](#), but is only permitted with special authorization. It is primarily used for government purposes, and also by foreigners. The country has some [broadband](#) infrastructure, including [fiber optic](#) links between major institutions.^[1] Online services for most individuals and institutions are provided through a free [domestic-only network](#) known as [Kwangmyong](#), with access to the global Internet limited to a much smaller group.^[2]

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Service providers and access

Internet access in North Korea is available from [Internet service provider](#) [Star Joint Venture Co.](#), a joint venture between the North Korean government's [Ministry of Post and Telecommunications](#) and Thailand-based [Loxley Pacific](#). Star JV took control of North Korea's Internet address allocation on 21 December 2009.^[3] Prior to Star JV, Internet access was available only via a [satellite](#) link to Germany, or for some government uses through direct connections with [China Unicom](#).^[4] Nearly all of North Korea's Internet traffic is routed through China.^[5]

Since February 2013, foreigners have been able to access the Internet using the [3G](#) telecommunications network provided by [Koryolink](#).^{[6][7][8]}

Permission to access the Internet remains tightly restricted. However, the IT industry has been growing and Internet access is gradually increasing within North Korea.^[9] In October 2010, the website of the [Korean Central News Agency](#) went live from a web server hosted in North Korea. It is [accessible globally on a North Korean IP address](#) (<http://www.kcna.kp>), marking the country's first known direct connection to the Internet.^[10] Around the same time, on 9 October, journalists visiting [Pyongyang](#) for the [Workers' Party's](#) 65th anniversary celebrations were given access to a press room with Internet connectivity.^{[11][12]}

As of December 2014, 1,024 [IP addresses](#) are known to exist in North Korea, although *The New York Times* journalists [David E. Sanger](#) and [Nicole Perlroth](#) believe that the actual number may be higher.^[13] The total amount of Internet users is estimated at no more than a few thousand.^[14] People who can access

the global Internet without limits are claimed to be high-ranking officials, members of non-governmental organizations (NGOs), and government ambassadors.^{[5][15]}

Some access is allowed in North Korea's academic institutions. Professors and graduate students can access the Internet at the Pyongyang University of Science and Technology through a computer lab, for instance. Access through this channel is monitored.^[16] In fact, as of 2007, many of the North Koreans with access to the global Internet were tasked only with retrieving scientific and technical information which could then be posted to the national intranet.^[17]

Kim Jong-il told a visiting North Korean dignitary in 2002 that he had spent much time on South Korean websites.^[18] According to Ofer Gayer, a security researcher of Incapsula, the country's total web traffic footprint has been less than that of the Falkland Islands.^{[19][20]} Joo Seong-ha, a *The Dong-a Ilbo* journalist and a North Korean defector, said in 2014 the government's intranet Kwangmyong has been used to limit the general public's global Internet usage, especially in hotels. Although available in most campuses, the government has "strictly monitored the Internet usage".^[15]

Since Apple Inc., Sony, and Microsoft are not allowed to distribute their products to North Korea, third-party companies have bought their products and been selling them to customers. Very little is known about the electronics industry in North Korea due to the government's isolation policies.^[5]

In April 2016, North Korea began to block Facebook, YouTube, Twitter and South Korean websites, due to "its concern with the spread of online information".^[21]

On 19 September 2016, North Korea's nameserver that contains information about all of the ".kp" websites was misconfigured, allowing researchers to access and publish^[22] the domain names and some of the file data about the site, including zone information for .kp, co.kp, com.kp, edu.kp, gov.kp, net.kp, org.kp, and rep.kp, revealing that North Korea has only 28 websites facing the Internet.^{[23][24][25]} However, the Kwangmyong intranet, available only to North Korea, was estimated to host between 1,000 and 5,500 internal-facing websites as of 2014.^{[26][27][28]}

In September 2017, Russian telecommunication company TransTeleCom established direct Internet connection to North Korea, causing China Unicom to no longer be the sole provider of Internet access for North Korea.^{[29][30]}

It was reported in January 2021 that North Korea was gearing up to upgrade its network from the current 3G to a 4G network.^[31]

Government use of the Internet

As of 2018, construction of an Internet Communication Bureau headquarters was underway in Pyongyang.^[32]

North Korean websites

There are about 30 websites, such as Uriminzokkiri, run by the DPRK government.^[33] South Korean police have identified 43 pro-North Korean websites that have foreign-based servers. The police report that these websites encourage hostile attitudes towards South Korea and Western countries, and portray the DPRK in a positive light. According to *The Dong-a Ilbo*, foreign-based websites include the following: *Joseon Tongsin* (Korean News Service) and *Guk-jeonseon* in Japan, *Unification Arirang* in China, *Minjok Tongsin* in the United States, and twelve new pro-North Korean websites have launched, including the "Korea Network".^[34] In August 2010, BBC News reported that an agency contracted by the North

Korean government has fielded an official DPRK [YouTube channel](#), [Facebook](#) and [Twitter accounts](#) for Uriminzokkiri. Both the Twitter and YouTube accounts are solely in [Korean](#). The BBC reported, "In a recent Twitter post, the North Koreans said the current administration in South Korea was 'a prostitute' of the US",^[35] though this wording may be a poor translation into English. Among some of the content on the official website is an image of a US soldier being followed by two missiles, along with various other cartoons, pictures and text, with largely anti-US and anti-South Korean sentiment.^[36] In September 2007 the [.kp top-level domain](#) was created.^[37] It contains websites connected to the North Korean government.^[38]

In addition to propaganda sites, there are numerous websites connected to commercial activity. In 2002, North Koreans, in collaboration with a South Korean company, started a [gambling site](#) targeting South Korean customers (online gambling being illegal in South Korea), but the site has since been closed down.^[18] In late 2007, North Korea launched its first [online shop](#), [Chollima](#), in a joint venture with an unnamed Chinese company.^[39] In 2013, [The Pirate Bay](#) claimed to be operating from North Korea after legal challenges forced it out of Sweden. The move was later revealed to be a hoax.^[40]

Hackers

South Korean [No Cut News](#) has reported that the North Korean government trains computer [hackers](#) in [Kim Chaek University of Technology](#) and [Kim Il-sung University](#) to earn money overseas.^[41] A group of North Korean hackers based in Shenyang, China, developed and sold *auto-programs* (programs that allow player characters to earn experience and in-game currency while the player does none of the work) for an online game [Lineage](#) and a South Korean citizen was arrested in May 2011 for purchasing it.^[42]

In December 2014, North Korea was accused of [a hack attack on Sony Pictures Entertainment](#).^[43] From 19–21 December, North Korea experienced technical difficulties with Internet access. On December 22, North Korea suffered a complete Internet link failure, resulting in loss of Internet access from outside the country for which the United States is suspected.^[13] On 23 December, nine hours after the outage, the country regained Internet access,^[44] albeit "partial and potentially unstable with other websites still inaccessible."^[45] On 22–24 December, North Korea experienced seven more Internet outages, including two on 23 December.^[19] On 27 December, the country experienced an outage on Internet (the third time of the year) and a mobile network.^[46] A similar outage, lasting for one and a half days, occurred in March 2013.^[19]

South Korean Internet regulations

South Korean Internet users must comply with *Trade Laws with North Korea* (Article 9 Section 2) in which one needs to have the [Ministry of Unification's](#) approval to contact North Koreans through their websites.^[47]

IP address ranges

As of 2014 North Korea had one known block of 1,024 IPv4 addresses:^[13]

- 175.45.176.0 – 175.45.179.255^[48]

Despite North Korea's limited Internet access, the small pool of IP addresses has led to very conservative allocations. The [Pyongyang University of Science and Technology](#), for example, had in 2012 just one IP address on the global Internet.^[49]

North Korea's telecommunications ministry was previously also the registered user of 256 China Unicom addresses (210.52.109.0 – 210.52.109.255).^[50] This pre-dated the activation of North Korea's own block.

In October 2017 it was reported that Russian ISP TransTelekom was routing traffic from North Korea as a second internet connection, together with China Unicom.^[51]

As of 2020 North Korea has four IPv4 subnets, which are assigned to AS131279, named "Ryugyong-dong".^[52] Currently there aren't any IPv6 subnets.

- 175.45.176.0/24 (175.45.176.0–255)
- 175.45.177.0/24 (175.45.177.0–255)
- 175.45.178.0/24 (175.45.178.0–255)
- 175.45.179.0/24 (175.45.179.0–255)

In December 2020, North Korea had interconnected to 1 Russian ISP and 2 Chinese ISPs (TransTelecom and Cenbong, which automatically re-route traffic, using China Unicom channels).

See also

- Censorship in North Korea
- Manbang – IPTV service
- Naenara – web portal of the North Korean government
- Telecommunications in North Korea

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External links

- List of North Korean websites at North Korea Tech (<https://www.northkoreatech.org/the-north-korean-website-list/>)
- Silibank North Korea (<https://web.archive.org/web/20121230075102/http://www.silibank.net/>) (in Japanese)
- Uriminzokkiri (<http://www.uriminzokkiri.com/index.php?lang=eng>)

- [Uriminzokkiri's channel \(https://www.youtube.com/user/uriminzokkiri\)](https://www.youtube.com/user/uriminzokkiri) on [YouTube](#) (in Korean)
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